

REMARKS

Claim 12 has been amended by underlining “docosahexaenoic acid (DHA).”

Claim 141 has been added. Claim 141 is similar to claim 12 except that claim 141 does not recite docosapentaenoic acid (DPA). There is ample support for this through the specification. Thus, it is believed that no new matter has been added.

It is noted that the obviousness-type double patenting rejection over claim 1 of copending Application No. 11/624,777 will be maintained until such time as claim 1 of the ‘777 application is cancelled.

Claims 1, 11-12, 16-18, 26-28 and 141 are rejected under 35 USC §112, first paragraph, on the ground that the specification is not enabling for a person of ordinary skill in the art to make and/or use the invention commensurate in scope with the claims.

Claim 1 of the instant invention recites a transgenic oilseed plant that produces mature seeds in which the total seed fatty acid profile comprises **at least 1.0 % of at least one polyunsaturated fatty acid** having at least twenty carbon atoms and five or more carbon-carbon double bonds. It is important to note that this claim recites that total seed fatty acid profile comprise at least one polyunsaturated fatty acid which constitutes at least 1.0% of thereof.

It is stated on page 4 of the Office Action that in references discussed by Applicant that there was a polyunsaturated fatty acid present in amount less than 1.0% of the total seed fatty acid profile. When the references are reviewed in their entirety, they demonstrate that there was at least one polyunsaturated fatty acid present in amount of at least 1.0% of the total seed fatty acid profile.

It is observed on page 4 of the Office Action that “Napier et al (2006) state that Abbadi et al. only obtained 0.8% EPA in transgenic flax. . . .” According to Abbadi et al. (2004), they reported in the abstract that up to 5% of C20 polyunsaturated fatty acids were obtained. It is further stated on page 2736, column 1, of Abbadi et al. that up to 1% of EPA was found as is indicated in Figure 4 on page 2737. Table 1 on page 105 of the Robert reference reports an EPA level of 1.0% for the Abbadi et al. work in flax.

It was also observed on page 4 of the Office Action that Napier mentioned the occurrence of “species-specific bottlenecks.” The information presented the references along with the Examples in the instant specification and information

discussed in the previously submitted Damude review cumulatively demonstrate that the occurrence of “species-specific bottlenecks” has been and can be addressed without engaging in undue experimentation.

There can be no doubt that the claimed invention represents ground breaking research in the transgenic production of polyunsaturated fatty acids in oilseed crops.

With respect to Wu et al., this reference reported achieving up to **15% EPA** of total seed fatty acids. Thus, while DHA levels might be low, EPA levels were quite good. Clearly, the Wu et al. work demonstrate **at least one polyunsaturated fatty acid present in amount of at least 1.0% of the total seed fatty acid profile.**

The Examiner’s attention is again kindly invited to the Robert reference, Table 1 on page 105 which show that the while the DHA level was 0.5, the EPA level was 2.5%. Again, Robert demonstrated **at least one polyunsaturated fatty acid present in amount of at least 1.0% of the total seed fatty acid profile.**

Take together, all of the references, along with Dr. Kinney’s previously submitted Declaration, demonstrate that a variety of genes and combinations thereof can be used to engineer oilseed crops to produce polyunsaturated fatty acids.

Accordingly, withdrawal of the rejection of the claims under 35 USC §112, first paragraph, as not being enabled, is respectfully requested.

Claims 1, 11-12, 16-18, 26-28 and 141 are rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement.

It is respectfully submitted that all of the foregoing comments with respect to the enablement rejection are equally apposite with respect to this ground of rejection.

Accordingly, withdrawal of the rejection of the claims under 35 USC §112, first paragraph, as failing to comply with the written description requirement, is respectfully requested.

A Notice of Appeal accompanies this Response After Final.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,

/Lynne M. Christenbury/

LYNNE M. CHRISTENBURY
ATTORNEY FOR APPLICANTS
Registration No.: 30,971
Telephone: (302) 992-5481
Facsimile: (302) 892-1026

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